



## KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT

### BUREAU OF AIR AND RADIATION

Subject: Flash Emission Sheltered Initiative

Historically emissions from volatile material storage tanks were calculated using equations for working and breathing losses. Recent evaluation by facilities in the oil and gas industry indicates that there are potential emissions from “flashing”.

Tank flashing emissions occur when a liquid with entrained gas goes from a high-pressure to a lower-pressure. As the pressure on the liquid drops some of the lighter compounds dissolved in the liquid are released or “flashed” and some of the components that are liquids at the initial pressure/temperature transform from the liquid into a gas/vapor and are also released or “flashed”. As these gases are released, some of the heavier compounds in the liquids may become entrained in these gases and will be emitted with them. Flashing losses/ volatile organic compound (VOC) emissions are greater as the pressure drop increases and as the amount of lighter hydrocarbons in the liquids increases. The temperature of the liquids and the storage tank will also influence the amount of the flashing/VOC emissions.

These flashing losses/VOC emissions are then either vented to the atmosphere through the tank’s pressure relief valve, hatch, or other opening, or they may be vented to a capture and/or control system. Flashing losses/VOC emissions from hydrocarbon storage tanks include emissions of VOC, hazardous air pollutants (HAP), and toxic air contaminants (TAC).

Several Midwestern states have completed and/or begun initiatives to incorporate flash emissions with calculation for potential-to-emit from these tanks and/or processes associated with flash emissions. Some of these states have required the installation of control equipment as BACT as a 100% supplemental environmental project instead of collecting significant penalties.

**Table 1 – Permit Applicability**

<b>PTE Thresholds</b>	<b>Permitting Requirements</b>
0 - 39 tons	No permitting required
40 - 99 tons	Construction permit required No operating permit required*
100 - 249 tons	Construction permit required Operating permit required* If controlled below 100 tons, Class II required* If controlled or uncontrolled and not below 100 tons, Class I required* Correct emission inventory fee (1 year back)
≥ 10 tons of an individual HAP	Construction/operating permit required If controlled below 10 tons, Class II required* (unless combined HAPs are ≥ 25 tons) If controlled and uncontrolled not below 10 tons, Class I required* Correct emission inventory fee (1 year back)
≥ 25 tons of a combined HAPs	Construction/operating permit required If controlled below 25 tons, Class II required* If controlled and uncontrolled not below 25 tons, Class I required* Correct emission inventory fee (1 year back)
250 tons and greater	Construction permit required** If controlled below 100 tons, Class II required* If controlled and uncontrolled not below 100 tons, Class I required* Correct emission inventory fee (1 year back)

Be aware PTE for HAPs above major source threshold may trigger case-by-case MACT.

\* For operating permit applicability, the entire facility's PTE must be evaluated and compared to the major source threshold.

\*\* PSD applicability will also be evaluated.

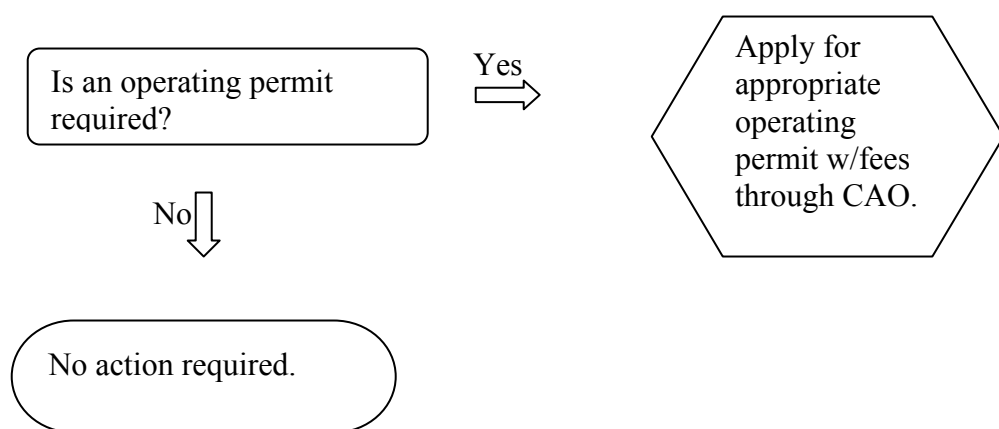
## **Time Frame for Implementation**

1. KDHE to send packet (letter, reporting form, fact sheet) in September 2006.
2. Sources have until June 30, 2007 to submit information.
3. KDHE permitting staff reviews source responses.
  - A. If sources that reevaluate their PTE incorporating flash emissions and have taken the appropriate course of action to permit and/or install control equipment, KDHE will review accordingly for completeness.
  - B. KDHE will determine action type.
  - C. Depending on action, KDHE to draft CAO.
  - D. CAO to include compliance schedule with the following deadlines:
    - 90 days to submit any and all permit applications
    - 365 days to install the required control equipment
    - 30 days to submit civil penalty, if required
4. There are other programs these facilities may be subject to as a result of the revaluation. These requirements will also be added to the permit and/or CAO. Some of these programs are as follows:
  - \*Commence leak detection and repair (LDAR) programs
  - \*Develop startup, shutdown, malfunction plans (SSMPs)
5. If the June 30, 2007 deadline is not met, the source is subject to traditional enforcement procedures.

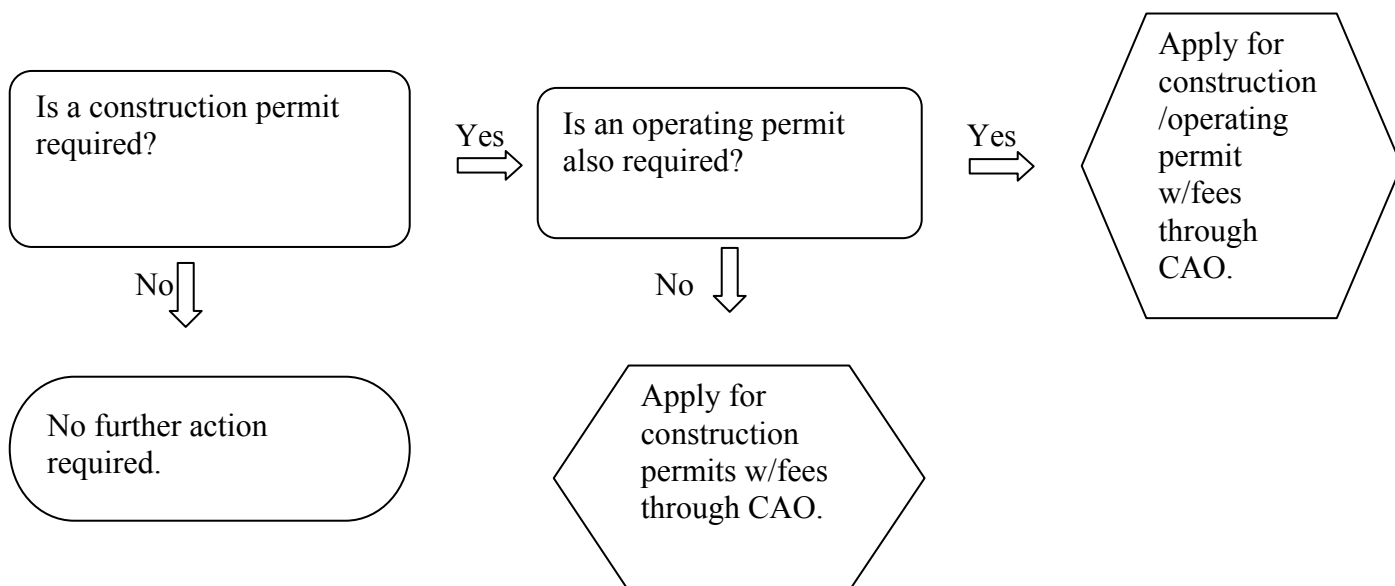
This KDHE initiative will promote the reduction of flash emissions through vapor recovery rather than control by flaring or venting.

KDHE will send all potential companies associated with standard identification classification codes (SIC) 1311, 1321, 4922, and 4925 correspondence requesting that the companies evaluate any and all sources with potential flash emissions. The KDHE correspondence will include a response form for submittal of the results of the facility evaluation. The evaluation must be conducted and completed no later than June 30, 2007. KDHE is to review all responses for permitting applicability (see Table 1). KDHE will then determine the impact of any additional emissions on the permitting status of the entire facility. MACT applicability will also be evaluated. The facility status will be reevaluated as follows:

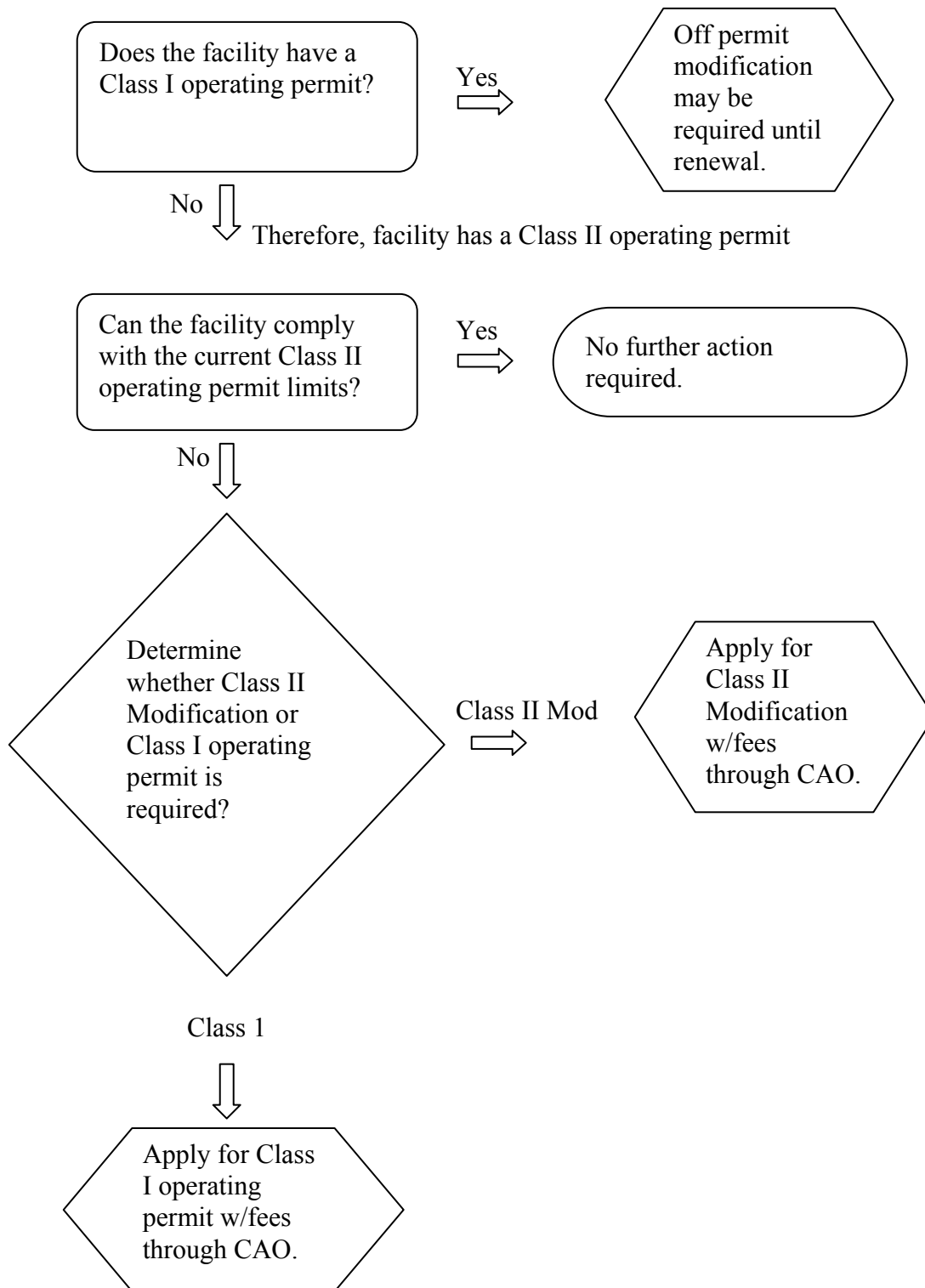
### Existing Sources w/o Operating Permits



### New Sources



## Existing Sources w/Operating Permit



Sources needing any type of construction and/or operating permit will be required to enter into a Consent Agreement and Final Order (CAO) with a compliance schedule for achieving compliance with applicable requirements and submittal of construction and/or operating permit application. If a facility evaluates uncontrolled emissions to be above PSD thresholds, a \$5,000 civil penalty will be issued in conjunction with the CAO.